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drawing at least a portion of said cleaning agent through said turbomolecular pump.

19. (New) The computer-readable medium of claim 18, wherein said supplying step occurs after the steps of:

depositing a layer of material on a substrate; and  
removing the substrate from the deposition chamber.

20. (New) The computer-readable medium of claim 18, wherein said drawing step comprises the step of:

activating said turbomolecular pump.

21. (New) The computer-readable medium of claim 18, wherein said cleaning agent comprises elemental or disassociated fluorine.

22. (New) The computer-readable medium of claim 18, wherein said supplying step comprises the step of:

supplying said cleaning agent from a remote plasma source.

23. (New) The computer-readable medium of claim 18, wherein said supplying step comprises the step of:

supplying said cleaning agent from a gas panel.

24. (New) The computer-readable medium of claim 18 further comprising:  
drawing a portion of said cleaning agent through the roughing pump.—

**REMARKS**

This response is intended as a full and complete response to the Final Office Action dated November 4, 2002. In view of the amendments and the following discussion, the Applicants believe that all claims are in allowable form.

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## DRAWINGS

The Applicants submit that a submission of drawings was not made by the Applicants in connection with this application on March 28, 2002, as indicated by the Examiner. The Applicants are additionally unfamiliar with any patent application having a docket number of 6064. Therefore, the Applicants believe that the drawings in question have been erroneously submitted and/or attached to the file wrapper by a party other than the Applicants. Accordingly, the Examiner is requested to remove those drawings from the record.

## CLAIM REJECTIONS

### 35 U.S.C. §102 Claims 6-10

Claims 6-10 stand rejected as being unpatentable over *Davis et al.*, (hereinafter referred to as "*Davis*"). In response, the Applicants have amended independent claim 6 to more clearly recite aspects of the invention.

Claim 6, as amended, recites limitations not taught, shown or suggested by *Davis*. *Davis* teaches an etch chamber that is pumped down by a roughing pump to a soft vacuum, after which, an isolation valve is opened to further pump down the chamber with a turbomolecular pump. See, column 11, lines 52-57 and column 12, line 36-37. In one embodiment, *Davis* describes utilizing CF<sub>4</sub>, in a cleaning step, to clean the interior of the chamber. However, *Davis* does not teach, show or suggest opening the isolation valve between the roughing pump and the turbomolecular pump during the cleaning step. Therefore, *Davis* does not teach, show or suggest drawing at least a portion of a cleaning agent through a turbomolecular pump, as recited by claim 6.

Thus, the Applicants submit that claim 6, and claims 7-10 that depend therefrom, are patentable over *Davis*. Accordingly, the Applicants respectfully request that the rejection be withdrawn.

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**NEW CLAIMS 16-24**

New claims 16-24 have been added to more clearly recite aspects of the invention. The Applicants believe that no new matter has been added, and accordingly, request allowance of these claims.


**CONCLUSION**

Thus, the Applicants submit that all claims now pending are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issuance are earnestly solicited.

If, however, the Examiner believes that any unresolved issues still exist, it is requested that the Examiner telephone Mr. Keith Taboada at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

Jan 17, 2003  
Date

  
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**CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. 1.8**

I hereby certify that this correspondence is being transmitted by facsimile under 37 C.F.R. §1.8 on January 17, 2002 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231, Facsimile No: (703) 872-9311.

Allyson M. DeVesty  
Signature

Allyson M. DeVesty  
Printed Name of Person Signing

1-17-03  
Date of signature

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APPENDIX I  
MARK-UP OF AMENDED CLAIMS

6. (Amended) A computer-readable medium having stored thereon a plurality of instructions, the plurality of instructions including instructions which, when executed by a processor, cause the processor to control a semiconductor wafer processing system to perform the steps of:

supplying a cleaning agent to a chamber after a substrate is removed therefrom;

pumping said cleaning agent from the chamber through a pumping system having a turbomolecular pump and roughing pump coupled in parallel;

at least partially opening a [gate] valve coupled between said chamber and [a] the turbomolecular pump of the pumping system; and

drawing at least a portion of said cleaning agent through said turbomolecular pump.

7. The computer-readable medium of claim 6, wherein said drawing step comprises the step of:

activating said turbomolecular pump.

8. The computer-readable medium of claim 6, wherein said cleaning agent comprises elemental or disassociated fluorine.

9. The computer-readable medium of claim 6, wherein said supplying step comprises the step of:

supplying said cleaning agent from a remote plasma source.

10. The computer-readable medium of claim 6, wherein said supplying step comprises the step of:

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supplying said cleaning agent from a gas panel.

16. (New) The computer-readable medium of claim 6 further comprising:  
drawing a portion of said cleaning agent through the roughing pump.
17. (New) The computer-readable medium of claim 6, wherein the step of at least partially opening the valve coupled between the chamber and the turbomolecular pump further comprises:  
partially opening the valve.
18. (New) A computer-readable medium having stored thereon a plurality of instructions, the plurality of instructions including instructions which, when executed by a processor, cause the processor to control a semiconductor wafer processing system to perform the steps of:  
supplying a cleaning agent to a deposition chamber;  
pumping said cleaning agent from the deposition chamber through a pumping system having a turbomolecular pump and roughing pump coupled in parallel;  
partially opening a valve coupled between said deposition chamber and the turbomolecular pump of the pumping system; and  
drawing at least a portion of said cleaning agent through said turbomolecular pump.
19. (New) The computer-readable medium of claim 18, wherein said supplying step occurs after the steps of:  
depositing a layer of material on a substrate; and  
removing the substrate from the deposition chamber.

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20. (New) The computer-readable medium of claim 18, wherein said drawing step comprises the step of:  
activating said turbomolecular pump.
21. (New) The computer-readable medium of claim 18, wherein said cleaning agent comprises elemental or disassociated fluorine.
22. (New) The computer-readable medium of claim 18, wherein said supplying step comprises the step of:  
supplying said cleaning agent from a remote plasma source.
23. (New) The computer-readable medium of claim 18, wherein said supplying step comprises the step of:  
supplying said cleaning agent from a gas panel.
24. (New) The computer-readable medium of claim 18 further comprising:  
drawing a portion of said cleaning agent through the roughing pump.

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**APPENDIX II**  
**PENDING CLAIMS**

6. (Amended) A computer-readable medium having stored thereon a plurality of instructions, the plurality of instructions including instructions which, when executed by a processor, cause the processor to control a semiconductor wafer processing system to perform the steps of:

supplying a cleaning agent to a chamber after a substrate is removed therefrom;

pumping said cleaning agent from the chamber through a pumping system having a turbomolecular pump and roughing pump coupled in parallel;

at least partially opening a valve coupled between said chamber and the turbomolecular pump of the pumping system; and

drawing at least a portion of said cleaning agent through said turbomolecular pump.

7. The computer-readable medium of claim 6, wherein said drawing step comprises the step of:

activating said turbomolecular pump.

8. The computer-readable medium of claim 6, wherein said cleaning agent comprises elemental or disassociated fluorine.

9. The computer-readable medium of claim 6, wherein said supplying step comprises the step of:

supplying said cleaning agent from a remote plasma source.

10. The computer-readable medium of claim 6, wherein said supplying step comprises the step of:

supplying said cleaning agent from a gas panel.



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16. (New) The computer-readable medium of claim 6 further comprising:  
drawing a portion of said cleaning agent through the roughing pump.
17. (New) The computer-readable medium of claim 6, wherein the step of at least partially opening the valve coupled between the chamber and the turbomolecular pump further comprises:  
partially opening the valve.
18. (New) A computer-readable medium having stored thereon a plurality of instructions, the plurality of instructions including instructions which, when executed by a processor, cause the processor to control a semiconductor wafer processing system to perform the steps of:  
supplying a cleaning agent to a deposition chamber;  
pumping said cleaning agent from the deposition chamber through a pumping system having a turbomolecular pump and roughing pump coupled in parallel;  
partially opening a valve coupled between said deposition chamber and the turbomolecular pump of the pumping system; and  
drawing at least a portion of said cleaning agent through said turbomolecular pump.
19. (New) The computer-readable medium of claim 18, wherein said supplying step occurs after the steps of:  
depositing a layer of material on a substrate; and  
removing the substrate from the deposition chamber.
- 20 (New) The computer-readable medium of claim 18, wherein said drawing step comprises the step of:  
activating said turbomolecular pump.

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21. (New) The computer-readable medium of claim 18, wherein said cleaning agent comprises elemental or disassociated fluorine.
22. (New) The computer-readable medium of claim 18, wherein said supplying step comprises the step of:  
supplying said cleaning agent from a remote plasma source.
23. (New) The computer-readable medium of claim 18, wherein said supplying step comprises the step of:  
supplying said cleaning agent from a gas panel.
24. (New) The computer-readable medium of claim 18 further comprising:  
drawing a portion of said cleaning agent through the roughing pump.